JOURNAL OF ORGANOMETALLIC CHEMISTRY VOLUME 473, NUMBERS 1–2, JUNE 28, 1994

Contents

Preface (H. Yamazaki) ix

Introduction

Organometallic chemistry in Japan — how it has developed
A. Yamamoto (Tokyo, Japan) xi

Review

Towards novel organic synthesis on multimetallic centres: syntheses and reactivities of dinuclear ruthenium thiolate complexes
M. Hidai, Y. Mizobe and H. Matsuzaka (Tokyo, Japan) (Rec'd December 8, 1993; in rev'd form December 29, 1993) 1

Regular Papers

Silicon–carbon unsaturated compounds.. XLVIII. Synthesis and reactions of silicon analogs of lithium enolates
J. Ohshita, Y. Masaoka, S. Masaoka, M. Ishikawa (Higashi-Hiroshima, Japan), A. Tachibana, T. Yano and T. Yamabe (Kyoto, Japan) (Rec'd December 22, 1993; in rev'd form January 19, 1994) 15

Molecular structures and charge-transfer complexes of *cis*-dibenzo[*c*,*h*]-1,6-disilabicyclo[4.4.0]deca-3,8-dienes and bi(benzo[*c*]silacyclopent-3-ene-1-yl)s
S. Kyushin, M. Ikarugi, S. Tsunakawa, Y. Izumi, M. Miyake, M. Sato, H. Matsumoto (Gumma, Japan) and M. Goto (Ibaraki, Japan) (Rec'd December 1, 1993; in rev'd form January 26, 1994) 19

Electronic spectra of (amino)(phenyl)disilanes
K. Tamao, A. Kawachi, Y. Nakagawa and Y. Ito (Kyoto, Japan) (Rec'd December 8, 1993) 29

Photochemical carbon–silicon bond forming reaction on electron-deficient alkenes by disilanes and polysilanes via photoinduced electron transfer
K. Mizuno, K. Nakanishi, J.-i. Chosa and Y. Otsuji (Osaka, Japan) (Rec'd December 29, 1993; in rev'd form February 9, 1994) 35

Synthesis, absorption characteristics and some reactions of polygermanes
K. Mochida and H. Chiba (Tokyo, Japan) (Rec'd November 17, 1993; in rev'd form December 29, 1993) 45

Mechanistic insight into the cinnamylmetal-thioacetal reaction employing 2-acetoxy-2-phenylacetaldehyde monothioacetal
T. Sato and J. Otera (Okayama, Japan) (Rec'd December 1, 1993; in rev'd form January 12, 1994) 55

Diversity in the reaction modes of anionic and cationic stannyl reagents: γ-chloro allylstannanes as a vinyl carbene equivalent, and its application for (±)-bakuchiol synthesis
J. Fujiwara and T. Sato (Tokyo, Japan) (Rec'd December 1, 1993; in rev'd form January 19, 1994) 63

Generation of allyl- and benzyllithiums from the corresponding halides by the aid of lithium–tellurium exchange reactions
T. Kanda, S. Kato (Gifu, Japan), T. Sugino, N. Kambe and N. Sonoda (Osaka, Japan) (Rec'd February 23, 1994; in rev'd form April 6, 1994) 71

A new convenient preparation of monocyclooctatetraenyl-lanthanide complexes from metallic lanthanides and oxidants
K. Mashima, Y. Nakayama, A. Nakamura, N. Kanehisa, Y. Kai (Osaka, Japan) and H. Takaya (Kyoto, Japan) (Rec'd November 26, 1993; in rev'd form December 29, 1993) 85

Carbon–carbon bond forming reactions *via* new organosamarium(III) intermediates
M. Murakami and Y. Ito (Kyoto, Japan) (Rec'd December 15, 1993; in rev'd form December 22, 1993) 93

Synthesis and X-ray structure of the divalent and trivalent ytterbium-molybdenum complexes $Yb^{II}(HMPA)_4(\mu\text{-}OCMo(CO)_2Cp)_2$ and $[Yb^{III}(HMPA)_5(\mu\text{-}OCMo(CO)_2Cp)][CpMo(CO)_3]_2 \cdot THF$
Z. Hou (Saitama, Japan), K.-i. Aida, Y. Takagi (Tokyo, Japan) and Y. Wakatsuki (Saitama, Japan) (Rec'd December 8, 1993; in rev'd form February 9, 1994) 101

Reaction courses for formation of early transition metal phenoxides
H. Yasuda (Higashi-Hiroshima, Japan), Y. Nakayama, K. Takei, A. Nakamura, Y. Kai and N. Kanehisa (Osaka, Japan) (Rec'd December 1, 1993; in rev'd form January 19, 1994) 105

Highly regioselective reaction of zirconocene-alkene complexes with aldehydes or ketones
N. Suzuki, C.J. Rousset, K. Aoyagi, M. Kotora, T. Takahashi (Aichi, Japan), M. Hasegawa, Y. Nitto and M. Saburi (Tokyo, Japan) (Rec'd December 1, 1993; in rev'd form March 23, 1994) 117

Catalytic asymmetric induction of planar chirality: Palladium-catalyzed asymmetric cross-coupling of *meso* tricarbonyl(arene)chromium complexes with alkenyl- and arylboronic acids
M. Uemura, H. Nishimura (Osaka, Japan) and T. Hayashi (Sapporo, Japan) (Rec'd November 17, 1993; in rev'd form December 22, 1993) 129

Synthesis and reactivity of platinum-containing heterodinuclear complexes with methyl and 1,2-bis(diphenylphosphino)ethane ligands. X-Ray crystal structure of $(dpe)MePt\text{–}FeCp(CO)_2 \cdot THF$
A. Fukuoka, T. Sadashima, T. Sugiura, X. Wu, Y. Mizuho and S. Komiya (Tokyo, Japan) (Rec'd September 22, 1993; in rev'd form November 26, 1993) 139

Preparation and some reactions of bis(η^5-cyclopentadienyl)hydrido(tosylato)-molybdenum and -tungsten
M. Minato, J.-G. Ren, H. Tomita, T. Tokunaga, F. Suzuki, T. Igarashi and T. Ito (Yokohama, Japan) (Rec'd December 1, 1993; in rev'd form December 15, 1993) 149

Preparation and structure of the first *ansa*-molybdenocene and tungstenocene derivatives. Reaction of $[O(SiMe_2C_5H_4)_2]MoH_2$ with methyl methacrylate to probe the olefin attacking site
T. Mise (Saitama, Japan), M. Maeda (Chiba, Japan), T. Nakajima (Tokyo, Japan), K. Kobayashi (Saitama, Japan), I. Shimizu (Tokyo, Japan), Y. Yamamoto (Chiba, Japan) and Y. Wakatsuki (Saitama, Japan) (Rec'd January 12, 1994; in rev'd form February 9, 1994) . . . 155

Photo-, electro-, and thermal carbonylation of alkyl iodides in the presence of Group 7 and 8–10 metal carbonyl catalysts
T. Kondo, Y. Sone, Y. Tsuji and Y. Watanabe (Kyoto, Japan) (Rec'd December 1, 1993; in rev'd form January 26, 1994) . . . 163

Unusual reactivities of $(\mu\text{-}\eta^2{:}\eta^2\text{-FP–C}\equiv\text{C–H})Co_2(CO)_6$, the adducts of FP–C≡C–H to $Co_2(CO)_8$: photolysis, thermolysis and reduction with hydrosilanes giving polynuclear complexes, $(CP)_2Fe_2Co_3(\mu_5\text{-C=CH})(CO)_{10}$, $(\mu\text{-CH=CH})[(-\mu_3\text{-C})Co_3(CO)_9]_2$ and $CpFeCo_3(\mu\text{-C=CH}_2)(CO)_9$
M. Akita, M. Terada, N. Ishii, H. Hirakawa and Y. Moro-oka (Yokohama, Japan) (Rec'd December 1, 1993; in rev'd form December 29, 1993) . . . 175

Reactions of sterically congested secondary silanes with iron carbonyls. Formation of μ-silylene complexes $Fe_2(CO)_8(\mu\text{-}SiR_2)$ (R = mesityl and $O(2,6\text{-}^iPr_2C_6H_3)$)
H. Tobita, I. Shinagawa, S. Ohnuki, M. Abe, H. Izumi and H. Ogino (Sendai, Japan) (Rec'd December 8, 1993; in rev'd form January 19, 1994) . . . 187

Preparation and characterization of μ-alkyne-hexacarbonyldicobalt complexes derived from 1,1′-dialkynylferrocene. Molecular structures of $\{(\eta^5\text{-}C_5H_4C\equiv CPh)_2Fe\}\{Co_2(CO)_6\}_2$ and $\{(\eta^5\text{-}C_5H_4C\equiv CPh)_2Fe\}Co_2(CO)_6$
K. Onitsuka, X.-Q. Tao, W.-Q. Wang, Y. Otsuka, K. Sonogashira, T. Adachi and T. Yoshida (Osaka, Japan) (Rec'd December 8, 1993; in rev'd form January 26, 1994) . . . 195

Syntheses and reactivities of ferrocenyl organyl tellurides
Y. Nishibayashi, T. Chiba, J.D. Singh, S. Uemura (Kyoto, Japan) and S.-i. Fukuzawa (Tokyo, Japan) (Rec'd January 12, 1994; in rev'd form February 9, 1994) . . . 205

Conjugate addition of allylic groups to α,β-unsaturated carbonyl compounds via $(\eta^3\text{-allyl})Fe(CO)_2NO$ complexes
K. Itoh, S. Nakanishi and Y. Otsuji (Osaka, Japan) (Rec'd December 22, 1993; in rev'd form February 23, 1994) . . . 215

Ruthenium(II) hydrido complexes of quadridentate crown thioethers, *trans*-RuH(Cl)(*syn*-L) (L = Me_4[14]aneS_4, Me_6[15]aneS_4, Me_8[16]-aneS_4) and $\{Ru_2H(\mu\text{-H})Cl(syn\text{-}Me_4[14]aneS_4)_2\}Cl$ containing a linear Ru–H–Ru bond. Novel characteristics of *syn*-crown thioethers affecting discrimination of axial ligands and geometry of the unsupported Ru–H–Ru linkage
T. Yoshida, T. Adachi, T. Ueda (Osaka, Japan), F. Goto (Tokushima, Japan), K. Baba and T. Tanaka (Osaka, Japan) (Rec'd November 17, 1993; in rev'd form December 22, 1993) . . . 225

Synthesis by the Arbuzov-like dealkylation reaction, characterization, and reactivity of phosphonate and amino-substituted phosphonate ruthenium complexes, $[(\eta^5\text{-}C_5H_5)(CO)_2Ru\{P(O)(OR)_n(NC_4H_8)_{2-n}\}]$ (n = 0–2), and comparison with the iron analogues
H. Nakazawa, T. Fujita, K. Kubo and K. Miyoshi (Higashi-Hiroshima, Japan) (Rec'd December 8, 1993; in rev'd form January 19, 1994) . . . 243

Reaction rate enhancement by addition of anionic surfactant SDS in the ruthenium catalyzed hydrogen transfer from a 1,4-diol to 4-phenyl-3-buten-2-one
K. Nozaki, M. Yoshida and H. Takaya (Kyoto, Japan) (Rec'd December 8, 1993; in rev'd form January 26, 1994) . . . 253

Ruthenium-catalysed reductive cleavage of allylic esters with formic acid and triethylamine. Application to short-step synthesis of α-hydroxy acids
Y. Maruyama, T. Sezaki, M. Tekawa, T. Sakamoto, I. Shimizu and A. Yamamoto (Tokyo, Japan) (Rec'd December 29, 1993; in rev'd form February 16, 1994) . . . 257

Reaction of $RuH_2(PMe_3)_4$ with benzaldehyde. Formation of novel oxametallacycle and metallacycloketone complexes via C–H bond activation of aldehyde
F. Ozawa (Sapporo, Japan), I. Yamagami (Yokohama, Japan) and A. Yamamoto (Tokyo, Japan) (Rec'd December 8, 1993; in rev'd form February 16, 1994) . . . 265

Hexaruthenium carbido carbonyl methyl cluster $[PPN][Ru_6C(CO)_{16}(CH_3)]$ as catalyst precursor for hydrogenation of olefins. Syntheses and structures of unsaturated and saturated hexaruthenium hydrido clusters $[PPN][Ru_6C(CO)_{15}H]$ and $[PPN][Ru_6C(CO)_{16}H]$
T. Chihara and H. Yamazaki (Saitama, Japan) (Rec'd January 12, 1994; in rev'd form February 23, 1994) . . . 273

Interconversion between $(C_5R_5)Ru^{IV}$(allyl) and $(C_5R_5)Ru^{II}$(diene) complexes
K. Masuda, M. Saitoh, K. Aoki and K. Itoh (Aichi, Japan) (Rec'd November 17, 1993; in rev'd form February 23, 1994) . . . 285

Carbon–carbon bond cleavage and skeletal rearrangement of coordinated norbornadiene. Preparation of a η^6-6-methylfulvene complex $[(C_5Me_5)Ru(C_5H_4CHCH_3)]BF_4$
H. Suzuki, T. Kakigano, H. Fukui, M. Tanaka and Y. Moro-oka (Tokyo, Japan) (Rec'd December 8, 1993; in rev'd form February 9, 1994) . . . 295

Synthesis and structure of planar-chiral (1,2,4-trisubstituted cyclopentadienyl)cobalt(tetraarylcyclobutadiene) complexes containing three different chiralities in one molecule
M. Uno, K. Ando, N. Komatsuzaki, T. Tsuda, T. Tanaka, M. Sawada and S. Takahashi (Osaka, Japan) (Rec'd December 8, 1993; in rev'd form December 15, 1993) . . . 303

A novel metallacycle, 1,2,5,3-cobaltadithiazole. Formation, structure, and properties of (η^5-cyclopentadienyl or η^5pentamethylcyclopenta-dienyl)(1-phenylmethanimine-*N*,1-dithiolato)cobalt(III)
A. Kato (Tokyo, Japan), M. Tono (Osaka, Japan), N. Hisamatsu, S.-h. Nozawa, K. Ninomiya, T. Sugiyama, M. Kajitani, T. Akiyama and A. Sugimori (Tokyo, Japan) (Rec'd November 4, 1993; in rev'd form january 6, 1994) . . . 313

Carbene insertion into oxygen–hydrogen bonds by metalloporphyrin catalysts
T. Hayashi, T. Kato, T. Kaneko, T. Asai and H. Ogoshi (Kyoto, Japan) (Rec'd December 29, 1993; in rev'd form January 19, 1994) . . . 323

Palladium(II) and/or copper(II)-catalyzed carboxylation of small alkanes such as methane and ethane with carbon monoxide
K. Nakata, Y. Yamaoka, T. Miyata, Y. Taniguchi, K. Takaki and Y. Fujiwara (Higashi-Hiroshima, Japan) (Rec'd November 24, 1993; in rev'd form December 29, 1993) 329
Preparation of vinylgermanes and a germole by the Pd-catalyzed reactions of Me_3GeCn with acetylenes
N. Chatani, T. Morimoto, T. Muto and S. Murai (Osaka, Japan) (Rec'd December 15, 1993; in rev'd form January 12, 1994) 335
Palladium-catalyzed hydrogenolysis of 2-alkynyl formates and elimination of 2-alkynyl carbonates. 2-Alkynylpalladium complex *vs.* allenylpalladium complex as intermediates
T. Mandai, T. Matsumoto, Y. Tsujiguchi, S. Matsuoka and J. Tsuji (Okayama, Japan) (Rec'd December 1, 1993; in rev'd form January 19, 1994) 343
Selective sp^3 C–H bond activation of alkylaromatics promoted by platinum complexes
A. Miyashita, M. Hotta and Y. Saida (Urawa, Japan) (Rec'd December 15, 1993; in rev'd form December 19, 1993) 353
Mono- and dinuclear alkoxide copper complexes with PPh_3 ligands
K. Osakada, T. Takizawa, M. Tanaka and T. Yamamoto (Yokohama, Japan) (Rec'd January 6, 1994 in rev'd form March 23, 1994) . . . 359

The following paper should also have been published in this special issue, but was unfortunately delayed:

Synthesis of η^3-2-stannylmethylallylpalladium complexes and their destannylation leading to trimethylenemethane-palladium species
S. Watanabe, S. Ogoshi, K. Kakiuchi and H. Kurosawa (Osaka, Japan) (Rec'd December 1, 1993; in rev'd form January 26, 1994)

Preliminary Communication
Studies on organosilicon chemistry. CXXII. Reaction of 2-oxiranylallylsilanes with acetals. Direct introduction of a vinyloxirane moiety
M. Hojo, N. Ishibashi, K. Ohsumi, K. Miura and A. Hosomi (Ibaraki, Japan) C1

Author Index C3

Subject Index C5

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. A leaflet describing our requirements is available from the publisher upon request.